

# Public Works Department

## Infrastructure Projects

Two major residential ***road improvement projects*** were completed. Following a major storm drain installation project, completed in the spring of 2002, Street Division crews installed new concrete curb and gutter along both sides of Valleyview Drive. Then in the spring of 2003, the entire street was repaved. On Kennedy Street, Utility Division crews replaced the existing water main and all of the residential service laterals in the spring of 2003. Street Division crews then installed new curb & gutter along both sides of Kennedy Street. The entire street was then repaved to complete this road enhancement project. These road improvement projects greatly enhanced the appearance of these roads and addressed long-standing storm water control issues.

A major ***storm drain installation project*** was completed on Clay Street in support of the Clay Street expansion project. Street Division crews installed a new 4-foot x 6-foot rectangular box culvert in Clay Street from Prospect Street to Jefferson Street. The box culvert was installed in 5-foot sections, each weighing approximately 19,000-pounds. A large crane had to be rented for this project since Public Works does not have equipment capable of handling materials of this weight. The rectangular box culvert sections were placed in the center of the roadway at a depth of 4- to 12-feet, requiring the use of trench jacks to safely shore up the trench. This major storm drain project will address both the existing and future storm water needs resulting from the Clay Street extension project.

Two ***water line expansion projects*** were completed. Utility Division crews extended new water service mains along the Clay Street extension from Jefferson Street to Alleghany Street and for the residents of Boxwood Drive. In both cases new 8-inch ductile iron water mains were installed along with new fire hydrants every 400-feet. New copper service laterals were also extended to each adjacent property for future hook-up. The Boxwood Drive water main expansion project addressed the need to provide public water service to all residents within town limits.

Two ***water main replacement projects*** were completed. Utility Division crews replaced 2100-feet of 6-inch water main on Giles Road from Progress Street to Northview Drive and replaced 1000-feet of 4-inch water main on Kennedy Street. Each project included new 8-inch ductile iron water mains and new copper service laterals to each existing residence. Both of these water main replacement projects addressed the need to replace existing undersized water mains that have inadequate pressure for domestic water service and provide inadequate fire protection for the neighborhood.

Approximately 2658-feet of sanitary sewer mains were fitted with a new plastic liner as part of the Town of Blacksburg's annual ***Sanitary Sewer Lining Program***. This included sanitary sewer mains on South Main Street, Rose Avenue, Brice Drive, Draper Road, Kennedy Street, Valleyview Drive, and Harrell Street. This program is designed to upgrade lines that are inadequate due to age and/or condition and to mitigate the infiltration of groundwater.

Approximately 2.5 miles of public roadway were repaved as part of the Town of Blacksburg's annual ***Street Repaving Program***. This included all or portions of Cambridge Road, Progress Street, Seminole Drive, Giles Road, University City Boulevard, Algonquin Court, and Washington Street.

## Facility Upgrade Projects

One major ***roof replacement project*** was completed. The "Five Chimneys" building, located at 203 Washington Street across from the Municipal Building, received a new roof. Properties Division staff oversaw the design and installation of a traditional standing seam copper metal roof and copper downspout system. The work was performed by Consolidated Industrial Roofing, Inc. based on drawings and specifications prepared by HDH and Associates. This major roof replacement project is the first step in addressing longstanding roof leaks and moisture control problems within the building that houses the Town of Blacksburg's public information office and the WTOB television station.

Both of the Town of Blacksburg's fire stations received new ***fire alarm control system equipment***. The Properties Division installed smoke detection sensors that were hard-wired back to central alarm control units at the Progress Street Fire/Rescue Station and the Price's Fork Road Fire Station.

Traffic signal poles at six intersections in the downtown area were refurbished. All signal poles at each of the six intersections were primed and painted to enhance their appearance and to prolong the life of the metal surfaces. Properties Division staff coordinated this work by a contractor and assisted with traffic control throughout the work.

## General Maintenance Activities

Much of the work performed by the Public Works department involves routine maintenance. The ***Parks & Landscape Division*** performs a variety of services including maintaining over 123 acres of town-owned parkland (not including Heritage Park & Nature Area), over 12-miles of off road bike trails, and the Westview Cemetery. This division maintained the numerous outdoor shelters, playground equipment, ball field equipment, fencing, trash receptacles etc. in coordination with the Parks Recreation department. Other general activities included planting and maintaining over 30,000 annuals, daily maintenance of the downtown hanging baskets, and pruning trees in the rights-of-way to address safety issues for motorists and pedestrians.

The ***Properties Division*** performed maintenance on 1056 street signs, about the same as last fiscal year, and performed maintenance on 788 parking meters, a 100% increase over this past year. This is in addition to the daily maintenance, repairs, and custodial services performed at the 17 town office buildings.

The ***Utilities Division*** performed maintenance on 17.5 miles of sanitary sewer line. This included cutting, washing, and performing TV inspection within the approximately 135 miles of town owned sanitary sewer lines. This preventive maintenance is required to address problematic sanitary sewer lines experiencing frequent root intrusion and line obstructions. This work is in addition to the 2658-feet of sanitary sewer main lined this past year and represents a 30% increase as compared to the previous fiscal year. The Utility Division also installed 260 new water meters during the past fiscal year. This represents a 165% increase over the previous fiscal year.

The ***Operations Division*** mechanics in the Town Garage performed 3760 job orders. This represents a 6.4 % increase as compared to the previous fiscal year. These job orders included state vehicle inspections, regularly scheduled preventive maintenance service, and unscheduled repairs to the over 350 motorized vehicles and equipment in the town fleet.

The ***Street Division*** performed routine maintenance on storm drains throughout the town in advance of and after major rainstorms. This work is needed to reduce the severity of storm water problems during these weather events. The Street Division performed a considerable amount of asphalt pavement maintenance to repair the many potholes resulting from the very harsh weather this past winter. The Street Division also performed approximately 765 hours of street sweeping, a 51 % increase as compared to the previous fiscal year.

## Programs & Initiatives

As part of the Town of Blacksburg's Environmental Management System and Pollution Prevention (EMS/P2) Program, three important focus areas were managed by Public Works. In order to reduce the use of energy in Town of Blacksburg facilities, a cross-departmental working group investigated the feasibility of ***Energy Performance Contracting*** as a tool to implement energy efficient equipment upgrades. As a result, an Energy Performance Contract was executed with Johnson Controls, Inc. to replace all traffic signal lights with L.E.D. fixtures, replace all T12 office lamps with T-8 office lamps, replace shower heads and toilets in the Aquatic Center with low flow devices, install a new energy management system at the Aquatic Center along with a new dehumidification system, and install programmable thermostats at the Parks & Recreation administration building and the Public Works administration building. Energy savings resulting from these equipment replacements will be used to pay the installation and financing cost over a 12-year payback period.

A second focus area of the EMS/P2 program was the development and implementation of a ***Hazard Communication Program***. Properties Division staff prepared a Hazard Communication Policy Manual in accordance with OSHA standards. A cross-departmental group of site representatives was formed to provide awareness training to designated employees. The Hazard Communication Policy Manual was placed in each town building along with the respective Material Safety Data Sheet (MSDS) documentation. As part of this effort, Properties Division staff also prepared a Bio-

hazard Program Policy Manual and Response Kit and included this information as part of the Hazard Communication awareness training. Copies of the Bio-hazard Program Policy Manual and Response Kit were also placed in each Town building.

A third focus area of the EMS/P2 program was the development and implementation of a ***Public Facility Recycling Program***. Parks & Landscape Division staff consolidated recycling areas in each building and began an ongoing educational effort aimed at raising awareness of ways in which employees can reduce waste, re-use materials, and recycle in the workplace. All of these efforts save the cost of taking materials to the landfill. As part of the educational effort, the recycling staff developed a cross-departmental working group to investigate the best methods to recycling our current products, to determine new products that might be recycled in the workplace, and to serve as advocates for the program. These assistants also organize their departments recycling program and answer any questions that may arise. Parks & Landscape staff instituted recycling of rechargeable batteries and is investigating the feasibility of recycling other items such as mercury containing bulbs and ballasts. Staff worked closely with the Purchasing Department to modify toner cartridge recycling so that the vendor will actually pay for the product. The recycling staff spearheaded an electronic waste work group. This group contains members from Montgomery County, the Town of Christiansburg, the Montgomery Regional Solid Waste Authority, and several departments at Virginia Tech. Its purpose is to investigate the current procedures for handling e-waste regionally as well as to encourage each locality to investigate its internal procedures. Partly as a result of this dialogue, the MRSWA will host the first regional e-waste recycling event to be held October 3<sup>rd</sup> and 4<sup>th</sup>.

In July 2002, the Town of Blacksburg entered into a contract with Waste Management to provide ***Residential Refuse/Recycling Collection Program*** to town citizens. At this time, the Public Works department assumed responsibility for managing this refuse collection contract. Parks & Landscape Division staff is in daily contact with the contractor to help ensure excellent service for town residents. In addition, the Superintendent continues to meet with WM personnel on a monthly basis to address customer service issues and to ensure a seamless interface between Town of Blacksburg, Waste Management, and the citizens. Parks & Landscape staff is continually determining ways to extend our educational outreach program and to improve our program. Staff continues to work with the MRSWA to provide environmental education to Blacksburg elementary school children. Staff participated in Steppin' Out, Farm and Family Days, Latex Paint Exchange Day, Hazardous Household Waste Day, Broomin and Bloomin, Earth Day/Arbor Day, and Leaf Giveaway days. All of these events provide an opportunity for individual contact with customers and to enhance our educational program. The residential recycling program reported a recycling rate of 34.17% in 2002. This rate includes both items collected curbside and from drop off locations. The curbside program includes co-mingled containers and newspaper collected in blue bins, monthly brush collection, and leaf collection. The drop off program includes magazines, catalogues, and corrugated cardboard collected at centralized collection sites and also seasonal collection of items such as phone books and Christmas Cards. The staff is also working closely with local apartment owners to help them establish recycling programs.

The Town Code requires that all apartments provide a means for their residents to recycle co-mingled containers, newspaper, corrugated cardboard, white paper, and magazines and catalogues. As a result, staff conducted an audit of apartment recycling facilities in the winter of 2003. The results of the audit will be used to assist apartment managers in their efforts to provide recycling programs and to comply with Town Code.

The Public Works department provides a number of ***Curbside Debris Collection Programs*** throughout the year. Parks & Landscape crews picked up 1131 loads of brush during its monthly brush collection program, 688 loads of debris during the spring and fall clean-up programs, 488 loads of leaves during the fall leaf collection program, and 1334 trees during the annual Christmas tree pick-up program. The 1131 loads of brush were not disposed of in the landfill, rather they were removed by a contractor (at a savings of \$10/ton) for use as a fuel additive in the Hampton Roads area of Virginia. Approximately 60% of the 688 loads of leaves were distributed free of charge to town residents and local farmers, while the remaining leaves were taken to the Virginia Tech Tom's Creek Basin Facility located at Price's Fork and the US 460 bypass for composting. Some of this partially composted leaf material was then given away free of charge to the public during two weekends in the fall as a soil additive. The 1334 trees collected in January were chipped and used as mulch in the Westview Cemetery. The Public Works department also provides a ***Special Pick-up*** service for household debris on a cost share basis where the homeowner only pays the actual landfill disposal fees. Utility Division crews performed 177 Special Pick-ups.